

## **BASIC SAFETY INFORMATION and TRAINING for FLWO USERS (including new employees, observatory scientists, official volunteers, and students)**

Your safety and security are of the utmost concern to us, whether you are a full-time employee or a visiting scientist. While on-site at Mt. Hopkins facilities and at the Administrative Complex, you must follow the safety policies at your telescope project or other worksite, and be familiar with the controls and safe work practices established to protect your own safety and that of your co-workers.

The attached form needs to be completed by you and your supervisor/scientific project director and returned to Tom Welsh, FLWO Safety Coordinator.

### **EMERGENCIES**

**You will be working in a remote setting, particularly on Mt. Hopkins, and you must be prepared before you arrive for self-sufficiency. There is no medical service available at the administrative complex or on the mountain. The closest emergency medical unit in Tucson is one hour away from the administrative complex and nearly two hours away from Mt. Hopkins summit.**

### **Wildland Fires - Emergency Response**

The threat to life and property from a wildland fire is one of the most serious hazards on the mountain. A "How to Report a Forest Fire" is posted in each building. After calling the Coronado National Fire Dispatch Number, please do the following:

**Ridge Procedures:** If you are on the Ridge, go to the MMT (provided the fire is not near the road between the Ridge and the Summit). The Forest Service will determine whether to evacuate observatory personnel by landing a helicopter on or near the Summit.

**Summit Procedures:** If you are on the Summit, go to the MMT (provided the fire is not near the road). The MMT is the best place on the Summit to wait out a fire and receive further direction from the Forest Service. MMT has more instructions posted inside the building. The Forest Service will determine whether to evacuate observatory personnel by landing a helicopter on or near the Summit. To allow space for a helicopter to land on the site, park vehicles on the west side of the MMT. Do not attempt to drive off the mountain to the administrative complex unless directed by the Forest Service.

An annual Mt. Hopkins Fire Action Plan is posted in all buildings on the mountain. The lead agency for this annual fire action plan is the U.S. Forest Service.

### **Building Fire Alarms and Emergency Evacuation**

Upon your arrival at telescope projects and dormitories, review procedures posted on the fire alarm panels in each building. If a fire alarm goes off and you can not immediately identify the area, go to the fire alarm panel and determine the zone area (look at the small lights next to the list of areas). Proceed to the zone. If you have positively verified that there is no fire, you may then silence the alarm by following the reset directions.

If there is a small fire, you may attempt to put it out with a fire extinguisher. Be sure to position yourself between the fire and an exit when you attempt to extinguish the fire. Also, notify someone else on the support staff or at the administrative complex. If it is a large fire, evacuate the building and go to another building to call 9-911. Mention to the 911 coordinator that you are with the Whipple Observatory on Mt. Hopkins and NOT on the University of Arizona campus in Tucson.

**Dormitory Alarms:** When a fire alarm goes off in the dormitories, a signal is remotely sent via phone to Central Alarm in Tucson. Central Alarm then phones the Tubac Fire Department. Observatory administrators and the Forest Service Fire Chief have the capability of dialing into the dorm fire alarms to wake up sleepers when there is a reported forest fire. There are procedures posted in each dorm room and on the fire alarm panel in the utility rooms. You will want to be aware of these procedures, particularly, during high risk times of the year for forest fires (spring and summer prior to the monsoon rains).

### **Medical Emergencies**

If a staff member is not immediately available to help you, call 9-911 (received at the University of Arizona Police Department). Your call will indicate an address of 933 N. Cherry Avenue on the dispatcher's monitor screen. Tell the University of Arizona Police responder that you are on Mt. Hopkins at the Whipple Observatory in the Santa Rita Mountains and then your call will be transferred to the 911 coordinator of Santa Cruz County. The Observatory is located within the Coronado National Forest managed by the U.S. Forest Service. For medical emergencies, the Santa Cruz County 911 coordinator will dispatch the Tubac Fire Department paramedics and determine whether an air ambulance should be dispatched to the Ridge heliport or the parking lot at the Administrative Complex. For non life-threatening, medical emergencies requiring an ambulance, the Tubac Fire Department drives to and waits at the Administrative Complex for a staff member to transport an injured person from the mountain.

### **Reporting Accidents and Injuries**

After any emergency response has been handled, report all accidents, injuries or illnesses to your supervisor. Also, any Smithsonian employee, fellowship student or volunteer should notify Tom Welsh. All Smithsonian employees and their supervisors are supposed to have access to AIRS (Automated Incident Reporting System) which is accessible on the PRISM Smithsonian Intranet. Go to the ERP HRMS link or access it from <http://ofeo.si.edu> You can initiate both a SI-2120 (SI Occupational Injury and Illness Report) and a CA-1 (Notice of Traumatic Injury) on AIRS.

When an accident/injury occurs during non-office hours and time is critical, please advise the medical provider that the occurrence is covered by the U.S. Department of Labor (applicable to Smithsonian Institution staff, stipend students and volunteers). Necessary paperwork will be completed subsequent to the accident/injury. Non-Smithsonian Observatory users should contact their respective supervisors for their institution's forms and also report the incident to Tom Welsh.

### **Vehicle Operator's Guide**

SI/FLWO vehicles may be driven ONLY by staff, official volunteers and Observatory users who have read the Vehicle Operator's Guide, possess a valid driver's license and have signed an agreement form to abide by its policies.

## **Safety Contacts**

Your supervisor, scientific sponsor, or telescope project director is your primary safety contact. The FLWO Safety Coordinator is Tom Welsh, office 879-4408 or cell 909-5368. Also, every project or working unit has a representative on the FLWO Safety Committee.

## **Safe Work Procedures**

Each worksite and telescope project will conduct a hazard analysis overview and develop safe work procedures to control significant risks. These will be reviewed with you when you start work.

## **Safety Gear / Personal Protective Equipment**

Based on hazard analyses of your project or work task, safety gear may be required (e.g., safety goggles, chemical-resistant gloves, hard hat, fall protection harnesses, etc). These items will be provided at the scientific project on-site. Your first-line supervisor (or advisor) will have more instructions and an issuance sheet to be signed by you.

## **Laser Safety Alert**

All laser users must be currently trained in the potential hazards and safe use of the laser system that you will be employing at respective projects. Scientists planning to bring additional lasers to FLWO for project work must first contact the FLWO Laser Safety Officer, Marc Lacasse at 520-879-4552 or 520-879-4570 (rings all MMT phones) and submit necessary information for approval.

## **Restrictions on Use of Power Tools and Machine Shops**

Use of any FLWO machine shop equipment (in the Administrative Complex, Ridge Support Building and Summit Shop) will be allowed ONLY after approval by a member of FLWO Staff (or authorized MMT staff for the Summit Shop) who is fully trained in their use.

## **Use of Chemicals or Other Hazardous Materials**

No one is authorized to use chemicals until trained on the hazards and safe work practices, by their supervisor or scientific sponsor, per the FLWO Hazard Communication Program. OSHA requires that every employee receive “Right to Know” training before working in a lab or other area with chemicals.

All work sites containing hazardous materials must have Material Safety Data Sheets (MSDS) for each hazardous chemical. These sheets contain information about the hazards known to be associated with chemicals, symptoms of exposure, methods of protection etc. Employees must read these sheets before they use a chemical for the first time, and are encouraged to review them periodically.

## **Chemical Spills – Emergency response**

Consult the FLWO Hazardous Chemical Spill and Leak Control Procedures posted in each building or call 9-911. Do not attempt to clean up a chemical spill by yourself!

Sites with the highest risk for a chemical spill include the diesel and fuel stations on the mountain and the administrative complex.

## **Hazardous Waste Disposal Procedures**

FLWO is not a significant generator of hazardous waste but be aware of proper disposal of many items. FLWO uses an outside contractor to dispose of fluorescent light bulbs, batteries, automotive parts solvent, and used oil. Check with Tom Welsh, 879-4552, regarding these and other items for proper disposal.

## **Elevated Work and Fall Protection (particularly at VERITAS and MMT)**

Working at heights on the motorized man-lifts at VERITAS reflectors and on the MMT/OSS requires the use of special fall protection gear (full-body harnesses, tie-offs). ONLY persons who have received fall protection training and are supervised by trained staff are allowed to work on these structures.

Any visiting scientists assigned to working on VERITAS reflectors with the use of motorized man-lifts will be required to be trained on the equipment and safety gear upon arrival. Contact Pascal Fortin, 520-879-4419, to schedule training.

## **WEATHER AND ENVIRONMENTAL RELATED CONDITIONS**

Monsoon Season (Summer Thunderstorm Season) This thunderstorm season begins in either June or July and continues into September. Heavy rain and thunderstorm occur during these months.

### **Lightning Storm Precautions**

If you are outside:

- \* Seek shelter, look for a large, enclosed building. If you are in a car and not near a building, stay inside it and keep the windows rolled up.
- \* If you are unable to reach a safe building or car and your skin tingles or stands on end, crouch down on the balls of your feet with your feet close together. Keep your hands on your knees and lower your head. Get as low as possible without touching your hands or knees to the ground. Do not lie down! It is best to find a low spot away from trees, metal fences, pipes, tall or long objects.

If you are inside a building:

- \* Stay at least a few feet away from open windows, sinks, toilets, tubs, showers, electric boxes and outlets, and appliances. Lightning can flow through these systems and “jump” to a person.
- \* Do not shower during a thunder or lightning storm.

If someone is struck by lightning:

- \* People struck by lightning carry no electrical charge and can be handled safely.
- \* Call 9-911 for help as soon as possible.

\* The injured person has received an electrical shock and may be burned, both where they were struck and the electricity left their body. Check for burns in both places. Being struck by lightning can also cause nervous system damage, broken bones, and loss of hearing or eyesight.

\* A person struck by lightning may appear dead, with no pulse or breath. Often the person can be revived with cardio-pulmonary resuscitation (CPR).

### **Altitude or Mountain Sickness**

Altitude sickness is a result of traveling to a higher altitude faster than the body can adapt to that new altitude. It usually occurs when people reach an altitude above 8,000 feet.

In most cases, the symptoms are mild and may include: nausea or vomiting, headache, loss of appetite, fatigue, difficulty sleeping, and dizziness or light-headedness. Most cases are mild and symptoms usually improve when the person returns to a lower altitude.

For travelers to Mt. Hopkins who may tend to experience altitude sickness, it is recommended that they drink sufficient fluids and avoid alcoholic beverages.

### **WILDLIFE ON MT. HOPKINS**

#### **Arizona Black Bears**

Black Bears often have dark, brown fur and are not necessarily black. On Mt. Hopkins, you may see bears any time during the year but they are most often seen in the summer and fall. During these seasons, the bears instinctively feel the urge to eat more and start accumulating reserves for the winter months. There are wildlife drinkers (small, man-made structures) in the bowl picnic area and by the 10-meter so you bears will frequently visit these areas.

Trash with discarded food or food wrappers/containers is never left outside on the mountain without being locked up. Once bears have access to human food and have been conditioned to expect food, then they lose their instinctive fear of humans and more apt to be more aggressive in a confrontational situation. "A fed bear is a dead bear" is a catch phrase used by wildlife biologists who try to educate humans about the consequences of their actions.

Some basic precautions to practice on the mountain are:

- \* Never feed human food to bear. If you eat outside on the patio or in the picnic area, be sure to take any leftover food and food containers inside the buildings.
- \* Never tease a bear as you could easily provoke an attack.
- \* Never allow yourself to be located between a mother bear and her cubs.

### Basic Safety Instructions for FLWO Users

**I have discussed the following safety instructions for FLWO operations, and have been trained by my supervisor in the safe work practices necessary to ensure my safety and that of my co-workers. I agree to abide by the safety requirements of the FLWO.**

- Wildland Fire Emergency Response
- Building Fire Alarm Procedures
- Medical Emergency Response
- Reporting of Accidents, Injuries, and Illnesses
- Vehicle Operator's Guide
- Safe Work Procedures as they apply to \_\_\_\_\_specific project/working unit)
- Safety Gear/Personal Protective Equipment Training and Issuance (use PPE issuance sheet)
- Laser Safety Alert
- Restrictions on Use of Power Tools and Machine Shops
- Use of Chemicals and Hazardous Materials.
- Chemical Spill and Leak Response
- Hazardous Waste Disposal Procedures
- Fall Protection

\_\_\_\_\_  
Employee, visiting scientist, volunteer, student

\_\_\_\_\_  
Date

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Institution

\_\_\_\_\_  
Supervisor or supervising scientist

\_\_\_\_\_  
Date

Keep a copy of this form for your records and return the original to Tom Welsh, FLWO Safety Coordinator.

Updated 8/20/12 LJ